

REMARKS

In paragraph 1 of the Office Action, the Examiner objected to the drawings under 37 CFR 1.83(a).

Reconsideration is requested.

A proposed amended Figure 2 is attached to this Amendment, where the proposed amendments are indicated by the red markings on the attached amended Figure 2. The proposed revision includes depiction of the bumper, as claimed in claim 3 and the reference character 26 as disclosed on page 7, in the amended paragraph beginning on line 17. Accordingly, the drawings are believed to comply with 37 CFR§1.84.

In the paragraph numbered 2 in the Office Action, the Examiner objected to an informality in claim 3. Specifically, the Examiner required that recitation “curved bumpers” be changed to “curved bumper”

Reconsideration is requested.

The Applicant has amended the claims to recite the required “curved bumper” language.

In paragraph 4 of the Office Action, the Examiner rejected claims 3, 6 and 7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, regarding claim 3, the Examiner found the recitation of “a centrally-placed absorber system” unclear. Regarding claims 6 and 7, the Examiner asked how the front cross member be “shaped” when claim 1 recites a “substantially linear front cross member.”

Reconsideration is requested.

Regarding the recitation in claim 3 of “a centrally-placed absorber system,” claim 3 has been amended to more particularly point out that the absorber system is interposed between the first absorber elements located on the lateral ends of the front cross member.

Regarding the shaped cross member, Applicant replies that “substantially linear” is not at

all inconsistent with "shaped;" the front cross member of the present invention can be both substantially linear and shaped. Nonetheless, to place the present application in a favorable condition for early allowance, Applicant has amended claims 6 and 7 by deleting the word "shaped" and has added claims independent claim 8 and claims 9 and 10, dependent thereon, that recite a "shaped" cross member with other desired features.

In the paragraph numbered 6 in the Office Action, the Examiner rejected claims 1, 3, 6 and 7 under 35 U.S.C. 102 (a) as being anticipated by Braun 6,290,272.

Reconsideration is requested.

Braun does not disclose all of the claimed features of the present invention, and therefore cannot anticipate the present invention. Braun discloses stiffening elements of a very particular and specific design located between a bumper shell and a bumper bracket. Braun, however, does not disclose or even suggest at least several of the fundamental claimed features of the present invention, specifically: the laterally placed absorber elements, and the front cross member with a unitary fillable internal chamber, features which are present in each of claims 1, 3, 6 and 7.

Although the Examiner states that Braun discloses a "unitary fillable internal chamber," Applicant finds no reference or suggestion as to this feature anywhere in Braun. If Applicant is mistaken, Applicant respectfully requests that the Examiner point out where this feature is disclosed in Braun.

In addition, although the Examiner cites Braun as disclosing a substantially linear front cross member, Braun merely discloses a bumper bracket that has a flat side, (col.. 3, lines 57-59). Applicant replies, therefore, that Braun does not disclose or suggest a substantially linear front cross member, as claimed in the present application.

Regarding claim 3, the Examiner cites Braun for the disclosure of a substantially straight front cross member which is fitted with curved bumper that conform to the shape of the underlying laterally placed first absorbing element that is interposed between the bumper and the cross member. Applicant finds in Braun no reference whatsoever to: 1) the shape of the front

cross member, except that it has one flat side; 2) a curved bumper conforming in shape to a first absorbing element; or 3) a laterally placed first absorbing element. If Applicant is mistaken, Applicant respectfully requests that the Examiner point out where these features are disclosed in Braun.

More particularly, Applicant replies that Braun teaches away from a curved bumper that conforms to the shape of the laterally placed absorber elements. Braun discloses an outer stiffening loop 16 with a flattened front side 19 that faces the bumper shell 13 and extends along the longitudinal direction of the bumper bracket 12, (col. 5, lines 5-8); an inner stiffening loop 18 with a flattened front side 29 that faces the bumper shell 13 and extends along the longitudinal direction of the bumper bracket 12, (col. 5, lines 31-34); and front sides 19, 29 of the stiffening loops 16, 18 arranged essentially in a **plane** that acts as a support for the bumper shell 13 (col. 5, line 67 – col. 6, line 2). In this regard, Braun teaches a flat, planar surface underneath the bumper, where said surface acts a support for the bumper. As no shape is disclosed for the bumper, it is unclear whether the bumper conforms to this flat, planar surface, or embodies another independent or supported shape. Furthermore, Braun does not contain laterally-placed absorber elements. Accordingly, Braun cannot and does not disclose a curved bumper conforming in shape to laterally-placed absorber elements.

Applicant replies further that claim 3 is dependent upon claim 1, which, as explained above, includes novel features not disclosed, claimed or suggested in Braun. Accordingly, dependent claim 3 includes those novel features and, therefore, cannot be anticipated by Braun.

Regarding dependent claims 6 and 7, Applicant replies that, in addition to all the novel features contained in these claims as recited in claim 1, upon which they depend, Braun does not disclose a flat front cross member, but recites rather a bumper bracket with one flat side (col. 3, lines 57-59). In addition, the products recited in claims 6 and 7 are properly defined and limited by the materials and methods recited for their production. Moreover, the patentability of these claims does not rest solely upon any limitation of construction material or production method; as

previously explained, other novel features recited at least in claim 1 distinguish these claims from the disclosure in Braun.

In the paragraph numbered 8 in the Office Action, the Examiner rejected claims 2, 4 and 5 under 103 (a) as being unpatentable over Braun, U.S.6,290,272, in view of Shiotani et al. 3,842,944.

Reconsideration is requested.

Regarding claims 2 and 5, the Examiner states that Braun discloses the protective structure for vehicles. As explained above, Braun does not disclose several novel features of the present invention and which are features of claims 2 and 5, through at least claim 1 upon which they depend. In addition, as acknowledged by the Examiner, Braun does not show inside the cross member, at least one second absorber element is present, which increases the collapsing force of the cross member and therefore the energy absorbed and, simultaneously, limiting the overall dimensions of the entire structure (claim 2); and said first underlying absorber element and said second absorber element comprise absorbing materials selected from the group consisting of extruded thermoplastic honeycomb, honeycomb made of aluminum, polyurethane foam, foamed polypropylene, rigid polyurethane, semi-rigid polyurethane and extruded polyurethane. Nor are these features disclose or suggested in Shiotani.

The Examiner states that it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the cross member of the protective structure of Braun filled with foamed aluminum, as taught by Shiotani et al. '944, in order to increase the absorbing efficiency. Applicant replies that, as previously stated, Braun does not disclose the present invention and, in particular, does not disclose the invention claimed in claims 2 and 5. Moreover, regarding claim 2, Shiotani does not suggest a combination of a metallic hollow object filled with foamed aluminum and the features of claim 2, including the laterally placed first absorber elements and the secondary absorber system. The disclosure of a metal hollow object filled with foamed aluminum as in Shiotani, in view of the disclosure of Braun of

stiffening elements located on a bumper bracket with one flat side does not render the present invention obvious as claimed in claim 2 or in any other claim. Neither Shiotani nor Braun disclose, teach or suggest the use of a second absorber element or any kind of second absorber system, each of which are features of the present invention.

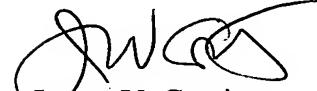
Regarding claim 5, Shiotani does not disclose, teach or suggest a single feature recited therein. Shiotani merely discloses a metal object filled with foamed aluminum. The invention claimed in claim 5 comprises all the features of claims 1 and 2, with the further feature that the second absorbing element comprises different absorbing materials selected from the group consisting of extruded thermoplastic honeycomb, honeycomb made of aluminum, polyurethane foam, foamed polypropylene, rigid polyurethane, semi-rigid polyurethane and extruded polyurethane, none of which is recited, claimed, disclosed or suggested in Shiotani.

Accordingly, in light of the above, it is clear that Braun, in view of Shiotani cannot render claims 2 or 5 obvious.

Regarding claim 4, the Examiner states that Braun, as modified, discloses the protective structure for vehicles characterized in that said underlying laterally-placed first absorber element and said second absorber element are made of materials deformation pressures of 5-30 N/mm² which corresponds to a crushing of 50%. Applicant replies that Applicant finds no support for this statement in the disclosure of Braun, as modified. If Applicant is mistaken, Applicant respectfully requests that the Examiner point out in particular where this claimed feature of the present invention is disclosed in Braun, as modified.

An early and favorable action is earnestly solicited.

Respectfully Submitted



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